City of North Little Rock
Master Street Plan

Adopted By:
Ordinance 7932
April 23, 2007
Last Amended 8-21-07

Table of Contents

Amendments

1.	Ordinance 7974	Aug. 21, 2007	Highway 165 amend

ORDINANCE NO. 7932

AN ORDINANCE ADOPTING A MASTER STREET PLAN AND MAPS FOR THE CITY OF NORTH LITTLE ROCK; REPLACING THE PREVIOUS MASTER STREET PLAN; DECLARING AN EMERGENCY; AND FOR OTHER PURPOSES.

WHEREAS, the North Little Rock Planning Commission approved (8 affirmative votes; 1 absent) a plan titled "North Little Rock Master Street Plan 2007," along with attached maps, for the City and its planning area at a public hearing held at a regularly scheduled meeting thereof on February 13, 2007; and

WHEREAS, it is in the best interests of the citizens and residents of the City of North Little Rock that the above-referenced North Little Rock Master Street Plan 2007 and maps be adopted by the City Council.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF NORTH LITTLE ROCK, ARKANSAS:

SECTION 1: That the North Little Rock Master Street Plan 2007, along with maps, a copy of which is attached hereto as Exhibit "A", is hereby adopted and approved.

SECTION 2: That all ordinances or parts of ordinances in conflict herewith are hereby repealed to the extent of the conflict.

SECTION 3: That the provisions of this Ordinance are hereby declared to be severable and if any section, phrase or provision shall be declared or held invalid, such invalidity shall not affect the remainder of the sections, phrases or provisions.

SECTION 4: It is hereby found and determined that the adoption of the North Little Rock Master Street Plan 2007 as provided for herein is immediately necessary in order to insure the proper and orderly growth of this land and the proper and orderly growth of the City of North Little Rock, Arkansas, and being necessary for the immediate preservation of the public health, safety and welfare;
THEREFORE, an emergency is hereby declared to exist and this Ordinance shall be in full force and effect on and after April 23, 2007.

ARTICLE 1. FOREWORD

This plan is designed to provide for the basic mobility needs and the orderly growth and development of the City of North Little Rock, Arkansas. It constitutes the official policy of the city with regard to the future location and function of all transportation systems. It is not a legal document but it establishes the basis for the city's subdivision development code which is municipal law within the city's Planning Area Boundary. It is a policy document intended to accompany the municipal law imposed by the regulatory Control of Development and Subdivision of Land Regulation document.

The Planning Area Boundary is the portion of the city's territorial jurisdiction for which the city will prepare plans, ordinances, and regulations. The territorial jurisdiction of the legislative body of the city having a planning commission is exclusive and shall include all land lying within 5 miles of the corporate limits.

The subdivision code is attached as a companion document to this plan. The Planning Area Boundary is indicated on the Master Street Plan Map at the end of this document. If discrepancies exist between the Master Street Plan and the Subdivision Code, the provisions of the Subdivision Code shall take precedence.

Streets and highways serve three basic functions - providing passageways for the movement of people and goods, providing access to property, and providing land for public utilities. In recent time, the increased dependence on motor vehicles and the streets system to accommodate most travel has increased the importance of the Master Street Plan. For that reason, the city staff and planning commission updated the plan in 2005.

The transportation system, both existing and planned, strongly influences land use patterns and urban activities. Conversely, the type and intensity of land development affect the operational efficiency of the transportation elements. Land uses may result in the demand for increased street capacities. For example, the construction of a new street or the widening of an existing street often results in more intensive land developments, which in turn generates increased traffic volumes on the particular street. So, land development and street improvement decisions by the public and private sectors are interrelated. For this reason, decisions that affect land use and the streets system should be guided by a general plan for the city and the overall goals and objectives of the general plan should be realized through conformance with the adopted Master Street Plan and the enforcement of zoning and subdivision regulations.

The amount of access afforded from streets to abutting land and the recommended design of a roadway is relative to the intended purpose of the roadway facility. The urban freeways are designed to provide a high level of traffic capacity at fast travel speeds with little or no access to abutting property. Local collector streets, on the other hand, are designed for less travel capacity and serve primarily to provide access to property. Local residential streets should serve to provide access to individual properties. The Master Street Plan presents a recommended hierarchy of streets and highways by functional

classification and these classifications should be used to indicate the recommended design of a route and the amount of access afforded to abutting property.

Planning for streets and roadways takes place at both state and local government levels. At the State level, the Arkansas State Highway and Transportation Department (AHTD) is responsible for the planning of the State system. This system is an important segment of highway networks that serve people throughout the cities and counties. The AHTD is also authorized to study and prepare plans, and to make recommendations relating to the basic street and roadway network of any city or county or urban area.

Arkansas cities and counties have the responsibility and authority to develop and maintain a system of streets and roads. Both have legislation authorizing them to undertake planning in general and to prepare plans specifically pertaining to their streets and roads.

Implementation of Master Street Plans is necessarily accomplished at both the state and local government levels. At the local level, the city of North Little Rock also has the authority to establish setback lines parallel with street rights-of-way and also the control of entry to streets and roadways. The City of North Little Rock can acquire right-of-way through dedication, purchase, gift, or condemnation. The City is permitted by Arkansas statutes to plan and to implement those plans beyond its corporate limits. The City accepts plats-of-addition which often create new streets. While the City has the authority to approve the platting of streets in unincorporated areas and may authorize them to be filed for record, Pulaski County must determine whether to receive the dedication and future maintenance responsibility.

The Master Street Plan of North Little Rock, Arkansas is composed of two parts - this textural material and the map entitled, Master Street Plan, North Little Rock, Arkansas.

ARTICLE 2. RESPONSIBILITIES AND AUTHORITY

2.1 Power to Adopt and Enforce Plans. In accord with Act 186 of 1957, as amended and codified in the Arkansas Code, Annotated (A.C.A) in § 14-56-401, et seq: "Cities of the first and second class in incorporated towns shall have the power to adopt and enforce a plan or plans for the coordinated, adjusted and harmonious development of the municipality and its environs."

2.2 The Planning Commission. The North Little Rock City Council has created a planning commission with appointment and terms of members provided by city ordinance. The Planning Commission has selected its officers, established its meeting dates, adopted rules and regulations and by-laws for the discharge of its duties and the transaction of business, all according to A.C.A.§ 14-56-408. As specified in A.C.A §: "The general purpose of the Planning Commission is to prepare or have prepared a plan or plans of the municipality, to receive and make recommendations on public and private proposals for development, to prepare and administer planning regulations, to prepare and transmit to the legislative body recommended ordinances implementing plans, and to advise and counsel the city government and other public bodies. . . "

2.3 Master Street Plan. As specified in A.C.A § 14-56-414(d)(1): "The Planning Commission may prepare and adopt a master street plan which shall designate the general location, characteristics, and functions of streets and highways. The Plan shall include the general locations of streets and highways to be reserved for future public acquisition; it may provide for the removal, relocation, widening, narrowing, vacating, abandonment, and change of use or extension of any public ways."

2.4 General Objectives of the Master Street Plan. The following are the general objectives of the North Little Rock Master Street Plan:

a. To provide for the efficient and safe transportation of people and goods,
b. To minimize the effect of traffic on residential areas,
c. To minimize the effect of traffic on residential areas,
d. To provide smooth transition of traffic from residential areas to arterials, expressways and freeways,
e. To provide adequate access to all parcels of land in a manner that will suit needs and intended uses, and
f. To recognize and fulfill the different transportation needs of properties of different land uses.

2.5 Implementation of Plan. As specified in A.C.A. § 14-56-417: “Following adoption filing of the Master Street Plan, the Planning Commission may transmit to the City Council, such ordinances and regulations as are deemed necessary to carry out or protect the intent of the Master Street Plan or parts thereof.”

2.6 Scope of the Plan. The Plan seeks to meet specific planning objectives set forth below:

a. To functionally classify the street network both within the city and within the extraterritorial planning boundary.

b. To functionally classify the street network in accordance with the nomenclature and standards as established and enacted by the General Assembly of the State of Arkansas, Act 3008 of 1973.

c. To coordinate the plan with the Metropolitan Transportation Plan in accordance with the existing agreement of understanding.

d. To indicate on the plan map the corridors for proposed new streets and roads.

e. To recommend standards and criteria to guide street and roadway improvement planning and programming.

ARTICLE 3. FUNCTIONAL CLASSIFICATION

As enacted by the General Assembly of the State of Arkansas Act 308 of 1973 the functional classification is defined as grouping of public ways by likeness of service or purpose into classes or systems according to the character of service they are intended to provide.

Table One
Functional Classification

Municipal Systems	**Level of Service**
Interstate Freeway	Provide basic interstate service. Link major cities.
Other Freeways & Expressways	Provide high level of interstate and intrastate service. Connect major generators of traffic. Serve trans-state travel to and through principal cities.
Other Principal Arterials Streets	Provide a system for the major traffic generators within the city (or county).
Minor Arterial Streets	Provide connections to and through the large centers of population within the State.
Collector Streets	Provide inter-county service. Serve the economic and state park areas not served by a higher system. Collect and distribute traffic to and from major streets. Provide intra-county service to population centers and other recreational and industrial areas.
Local Streets, Rural Local, Estate	Service small rural communities. Provide access to residential areas, subdivisions, and neighborhoods within the City. Provide direct access to adjacent properties.

ARTICLE 4. CROSS SECTIONS AND STREETSCAPE STANDARDS

Recent state and local policies call for the inclusion of the following features that may differ from previous design recommendations. These standards are to be applied when federal funding assistance is to be requested for the modification of the roadway.

4.1 Freeways and Expressways. The inside shoulder should be a minimum 6’ wide on a 4-lane section and 10’ wide for a standard 6-lane cross section. Outside shoulders will be a minimum of 10’ for either section.

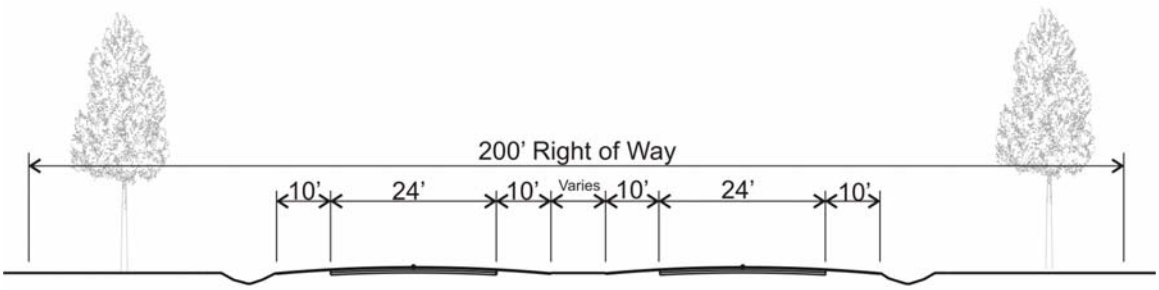
4.2 Principal Arterials. The typical cross section must allow for 4 lanes; 6 if justified. This roadway may have either a curb & gutter or an 8’ paved shoulder where terrain and/or forecast land use densities are compatible. The moving lanes must be at least 11’ wide except in areas with higher speeds or with a large percentage of truck traffic, in which case 12’ lanes are recommended. A sidewalk having a minimum width of 5' should be on each side with at least a 4’ planting buffer between the curb and sidewalk. The exception to this buffer is in the downtown area where the typical buffer strip is commonly paved. A median or pedestrian refuge area is recommended where the pavement width is greater than 50' wide. It is recommended that a median be included with new 4 to 6 lane principal arterials. Continuous center turning lanes may be allowed only in areas of preexisting intensive, strip commercial development. Where bike lanes are included, these should be the outermost moving lane and 6’ in width.

4.3 Minor Arterials. The plan for all designated minor arterials must allow for the eventual expansion to 4 moving lanes. Either a curb and gutter or an 8’ paved shoulder is allowed. 8’ minimum (including gutter) parallel parking may be installed on one or both sides. Other features, including travel lane width, sidewalk design, center-turning-lanes, and bike lanes are, as described with principal arterials.

4.4 Collector Roadways. A curb & gutter or a paved 6’ shoulder is allowed. 10’ travel lanes are allowed with 12’ lanes required where heavy truck traffic is expected. A sidewalk having a minimum width of 5' with at least a 4’ planting buffer between the curb and sidewalk should be on each side of residential and commercial collectors and on one side of industrial collectors.

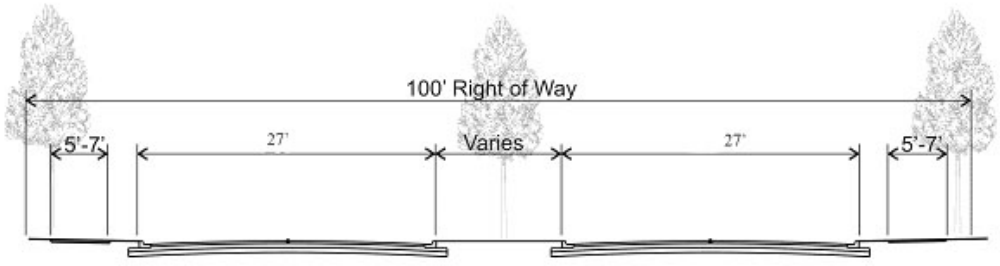
4.5 Roadway Cross-sections. The following sections outline the recommended, typical roadway cross-section standards.

4.5.1 Freeways and Expressways provide high-speed travel through the urban area. Freeways maintain this high service by limiting access to adjacent land. Access is provided by freeway interchange ramps which transitions movements between two roadways. Access on expressways is partially controlled and may include signalized intersections and turn-around median breaks. On these higher type roadways a minimum 200' right-of-way is recommended. The carrying capacity of a freeway lane is about 1800 vehicles per hour (VPH). This figure is reduced as additional access is allowed.



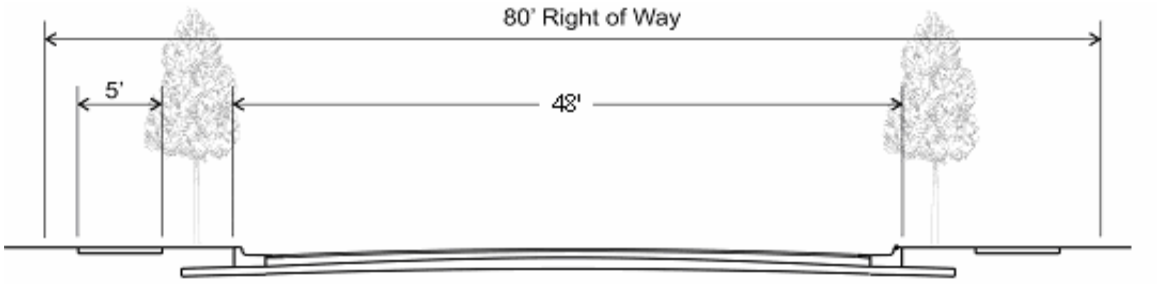
FREEWAYS AND EXPRESSWAYS

4.5.2 Principal arterials provide both long distance connections through the urban area and to major traffic generators within the community. Roadways are designated principal arterials to imply the need to focus more on moving traffic rather than providing direct access to adjacent land. Traffic management techniques used to maintain a high level of traffic capacity on these roadways include the use of medians, restricting curb-cuts to some spacing policy and limiting the use of traffic signals to the intersection with other significant roadways.

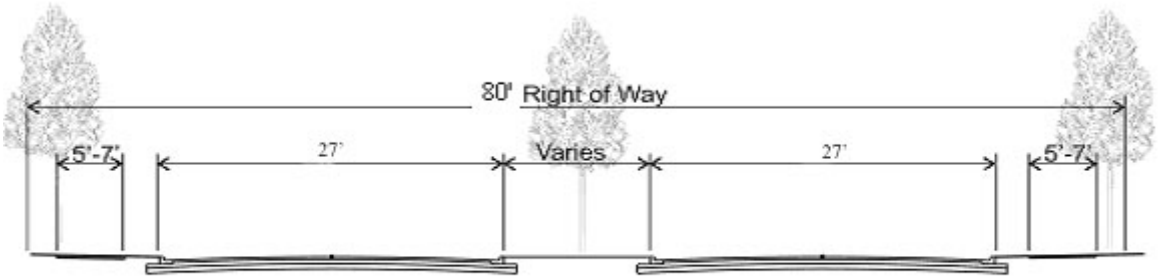


PRINCIPAL ARTERIAL

4.5.3 Minor arterials provide network connections within and through the urban area while providing extensive access to adjoining properties. Typical minimum requirements for the design of a minor arterial include an 80' right-or-way and 11’ travel lanes. There are numerous cross-section configurations depending on possible features including: on-street parking, bicycle lanes, medians or center-turning lanes.

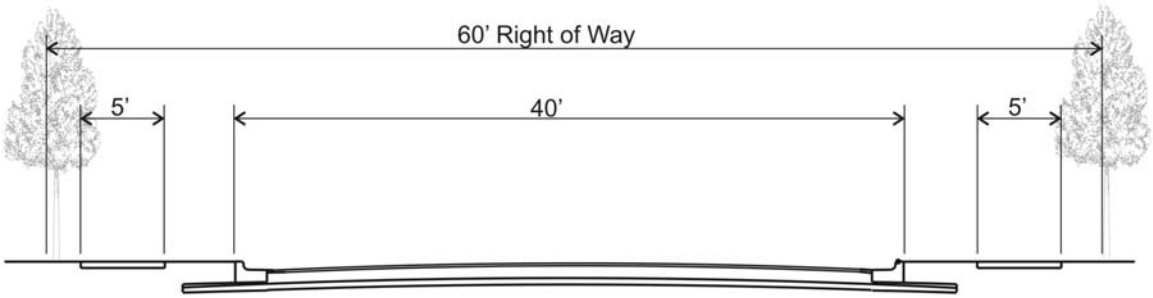


Typical 4 Lane
MINOR ARTERIAL

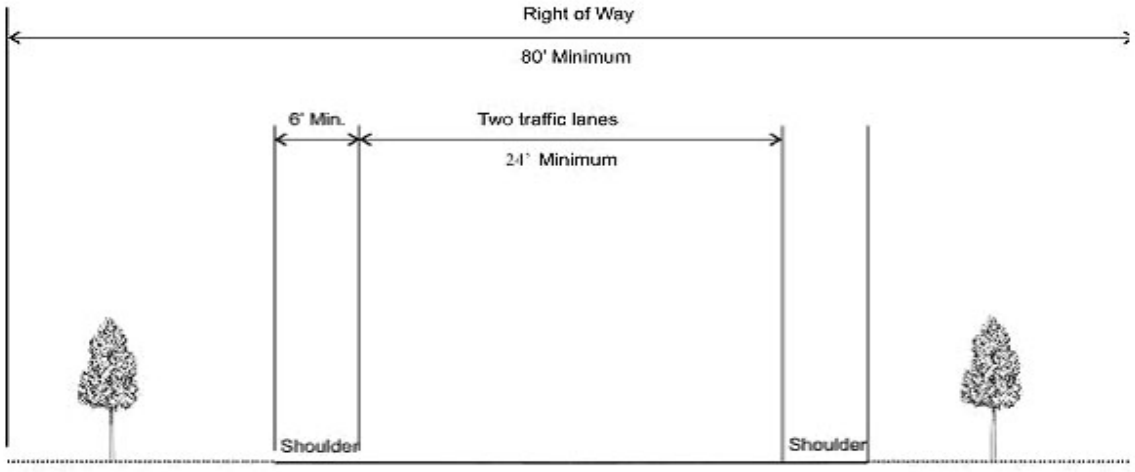


Minor Arterial

4.5.4 Collector roadways are recognized roadways that provide neighborhood or system connections. These roadways provide extensive access to property. The design standards for these roadways are slightly higher than local streets. In some cases, collectors may be identical in design to local streets but are of extensive length, providing commuter route connections. In general, collectors will have higher traffic counts than local streets. The typical cross-section of a collector street includes approximately 36' of pavement allowing either three 12' lanes in commercial areas or two 11' lanes and side parking in residential areas. The typical pavement width is referred to as either 40' as measured from back-of-curb to back-of-curb or 39' as measured from face-of-curb to face-of-curb. In relatively flat areas, an open ditch design may be the preferred design with shoulders and side swale ditches. This design has been found very effective to avoid water undermining the roadway pavement as is often the case when curbs are constructed in very flat, slow draining areas. These open ditch designs also are preferred with heavy truck traffic as a wider roadway helps maneuverability or in relatively rural areas where the outside lanes serves as a bicycle, shared lane facility.



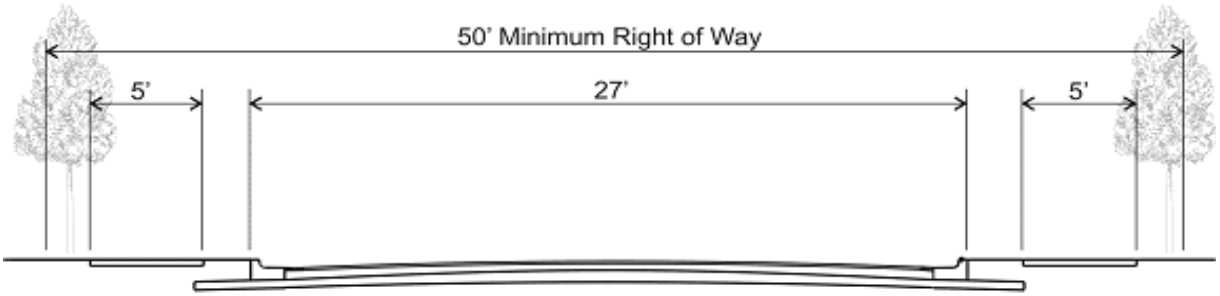
COLLECTOR STREETS



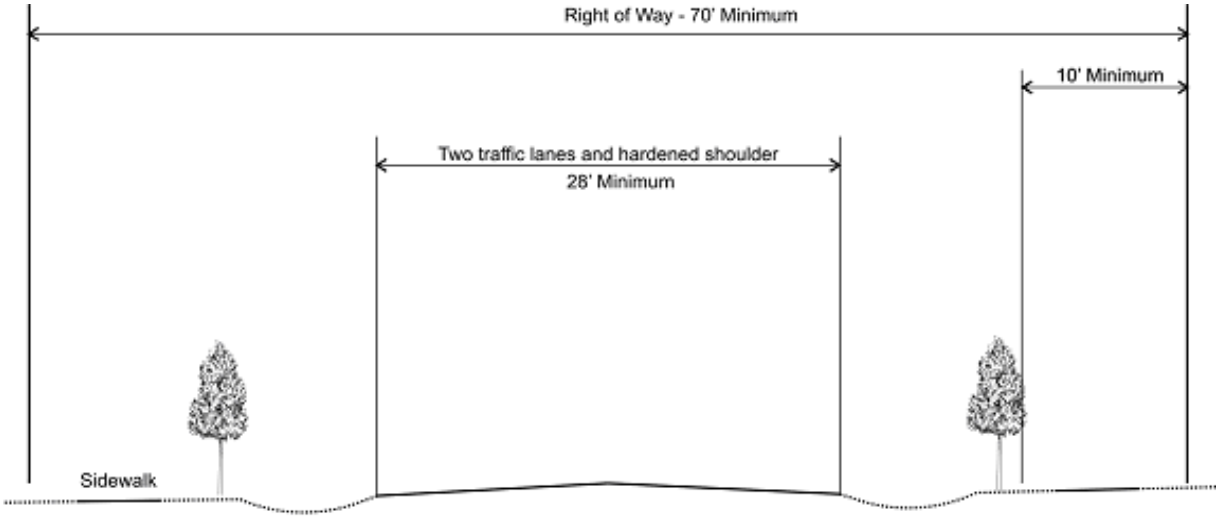
Rural Collector Street

4.5.5 Local streets serve to provide access to property and all development lots must have access to a public or private street. These roadways provide the shortest roadways with the lowest traffic volumes. Low traffic volumes and slow travel speeds help create a good residential setting. The Planning Commission reviews new development in part to avoid creating "cut-through" streets that become commuter routes and generally lower quality of life for residents. Local streets need not be wide as wide streets allow for faster travel. Some measures to slow traffic in neighborhoods, other than the lay-out of streets, include allowing on-street parking, and adding traffic calming devices such as speed humps or landscaped islands centered in street intersections.

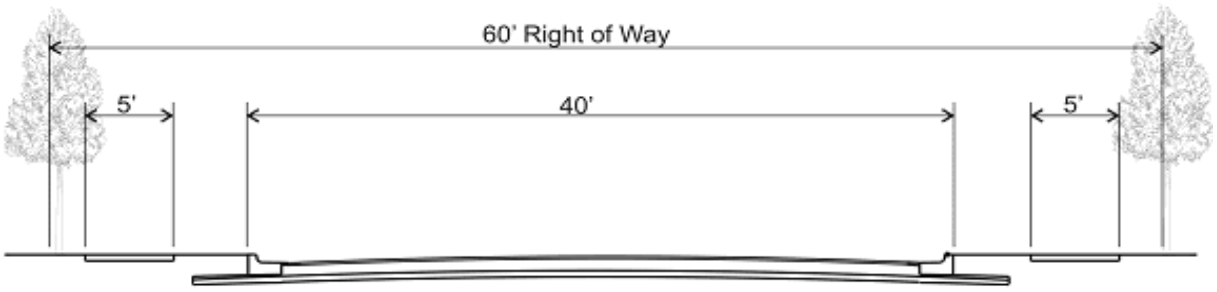
Residential Urban Design



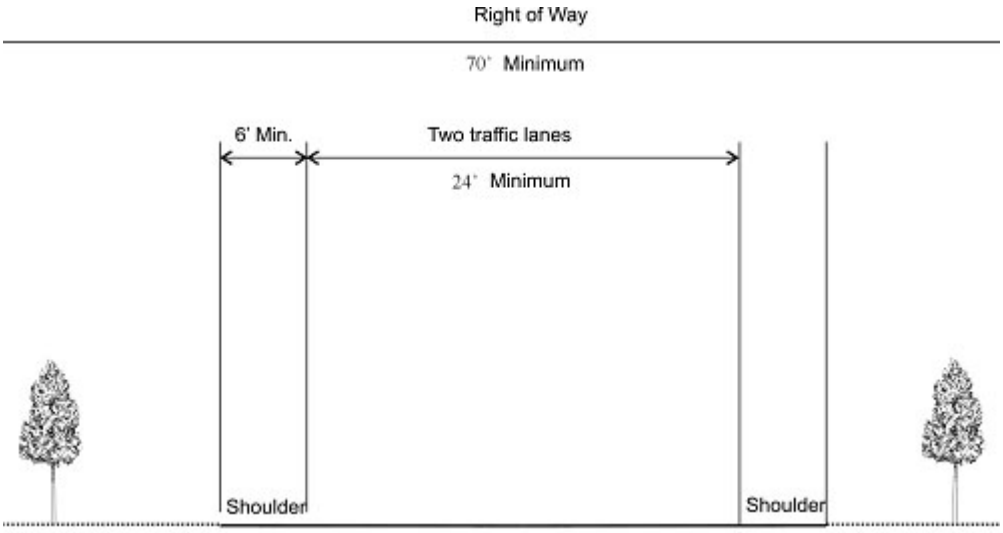
Residential Estate Design



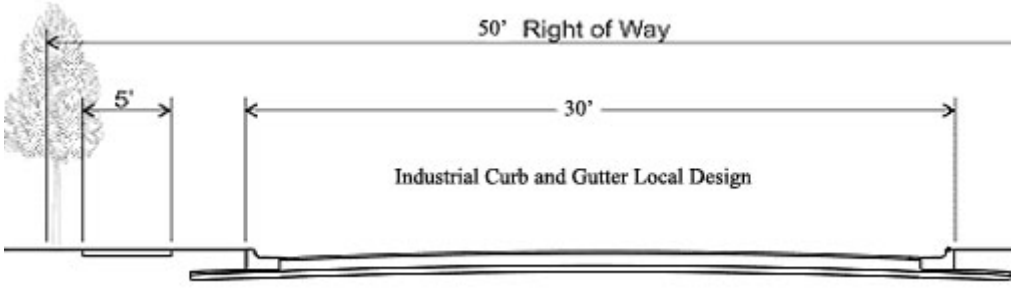
Commercial



Industrial/Commercial Open Shoulder

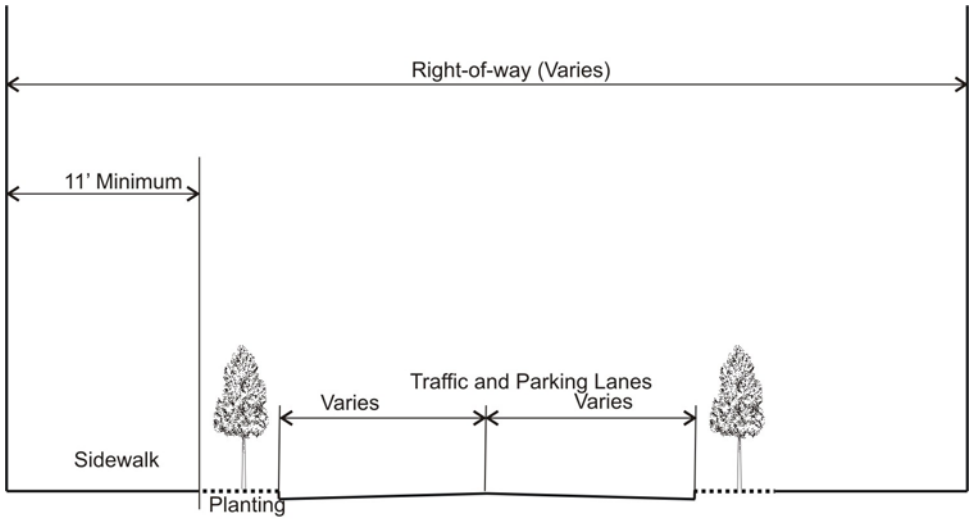


Industrial Curb and Gutter



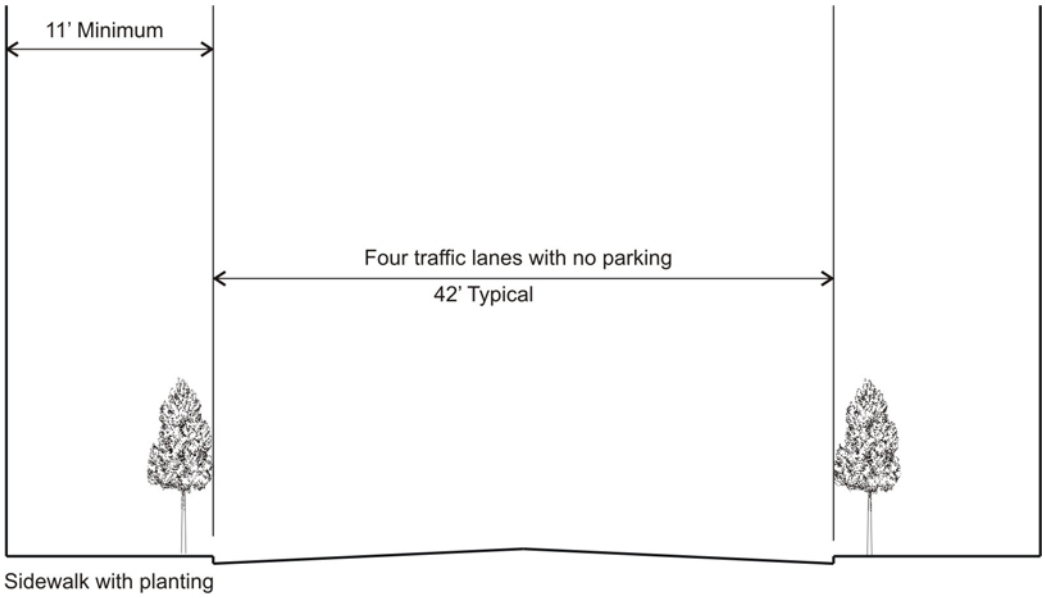
4.6 Streetscape Standards. Street trees are required along all streets. The recommended types of street trees to be used are those listed as Type B trees from the City's Screening Ordinance. The foliage of these trees is to be maintained with a 7' clearance from the ground with additional clearance provided near traffic control devices and 13' clearance above travel lanes. Type A Trees, relatively short trees at maturity, are recommended under service power. Illumination lines, lines feeding only streetlights, are not considered service power lines.

4.6.1 Type A Streetscape "Downtown Promenade with On-street Parking". This street cross-section describes a street standard like that found on the historic Main Street cross-section and is to include wide and decorative sidewalks. Each sidewalk is to be at least 11' wide and the sidewalk shall include etched and stained concrete along the street curb. An enlarged pedestrian area should be provided at street intersections as a traffic-calming device. A patterned crosswalk is required continuing the decorative look. Mid-block asphalt paving shall be no wider than three 11' wide traffic lanes with parallel on street parking along both sides. A median or pedestrian refuge area should be provided if a wider pavement is desired. Street trees should be planted not less than every 50', but no closer than 50' from the intersecting street unless this provision violates the policies of a Historic District. Sidewalk awnings may be provided in lieu of the tree requirement. Ornate illumination is desired to enhance the special pedestrian environment.



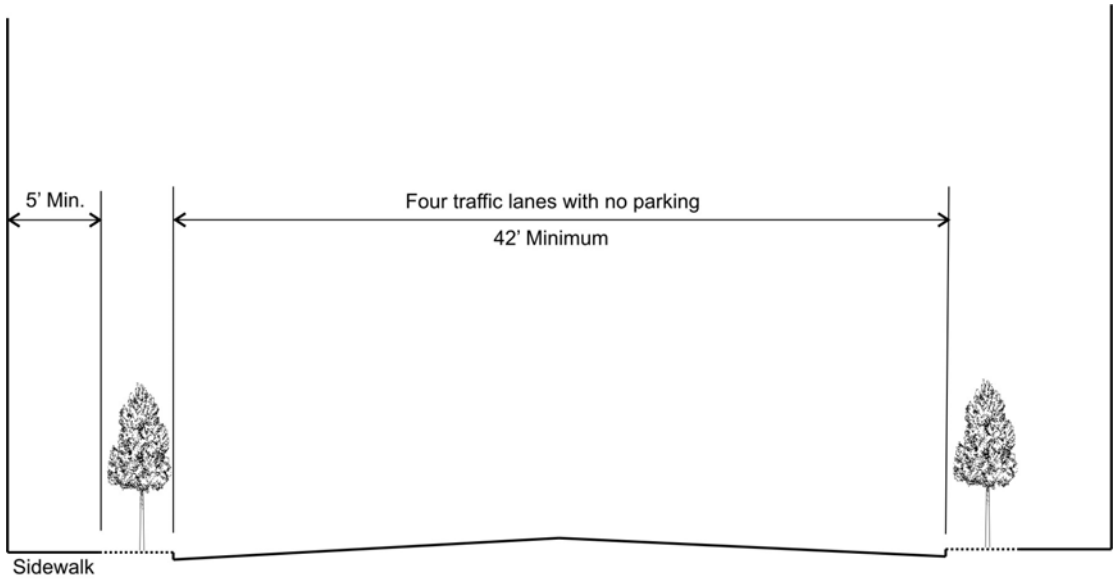
Type A Streetscape
Downtown Promenade With On-Street Parking

4.6.2 Type B Streetscape "Downtown, Four Lane Promenade, No-Parking Street". This standard includes four traffic lanes, no on street parking with wide sidewalks. The street shall include four traffic lanes with 42' of pavement and 11' sidewalks with trees planted in the sidewalk dimension at designated areas bordering the street curb. The concrete sidewalk should include decorative borders and the crosswalks should continue a similar appearance. Street trees should be planted at a minimum 50' spacing but no closer than 50' of an intersecting street.



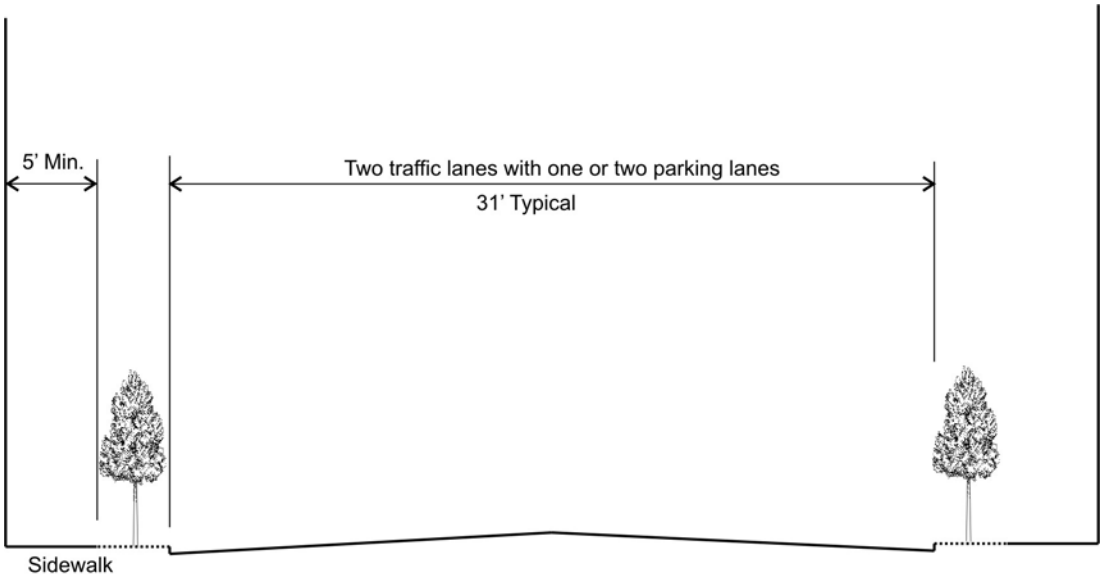
Type B Streetscape
Downtown - Four Lane Promenade - No Parking Street

4.6.3 Type C Streetscape "Downtown Four Lane Arterial". In general this streetscape standard includes four traffic lanes with 5' wide sidewalks and no on-street parking. The street shall include four traffic lanes with a minimum 42' of pavement. A grass planting strip shall be located between the curb and sidewalk and include street trees at a minimum 50' spacing but no closer than 50' of an intersecting street. The concrete sidewalk should include a decorative border at street intersections and as a minimum there should be a painted crosswalk.



Type C Streetscape
Downtown - Four Lane Arterial

4.6.4 Type D Streetscape "Downtown Residential Street". This street cross-section describes a typical downtown residential street having about 31' of pavement on a 60' right-of-way, allowing for two way traffic with either one or two on-street parking lanes. A 5' wide sidewalk is required on both sides with a grass planting strip bordering the curb. Trees are to be planted in the grass planting strip at a minimum 50' spacing but no closer than 50' of an intersecting street.

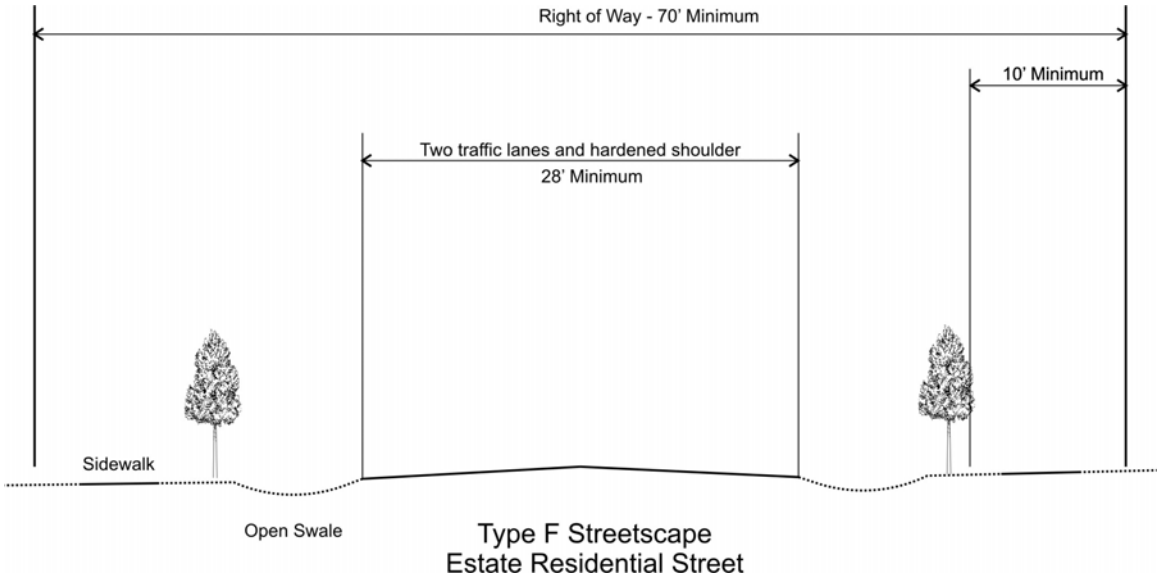


Type D Streetscape
Downtown Residential Street

4.6.5 Type E Streetscape "Suburban Residential Street". This street describes the typical street constructed in residential areas in the past few decades and includes a minimum 50' right-of-way, 27' of pavement measured from back-of-curb to back-of-curb, a 5' sidewalk on both sides, and street trees at a minimum 50' spacing but no closer than 50' of an intersecting street.

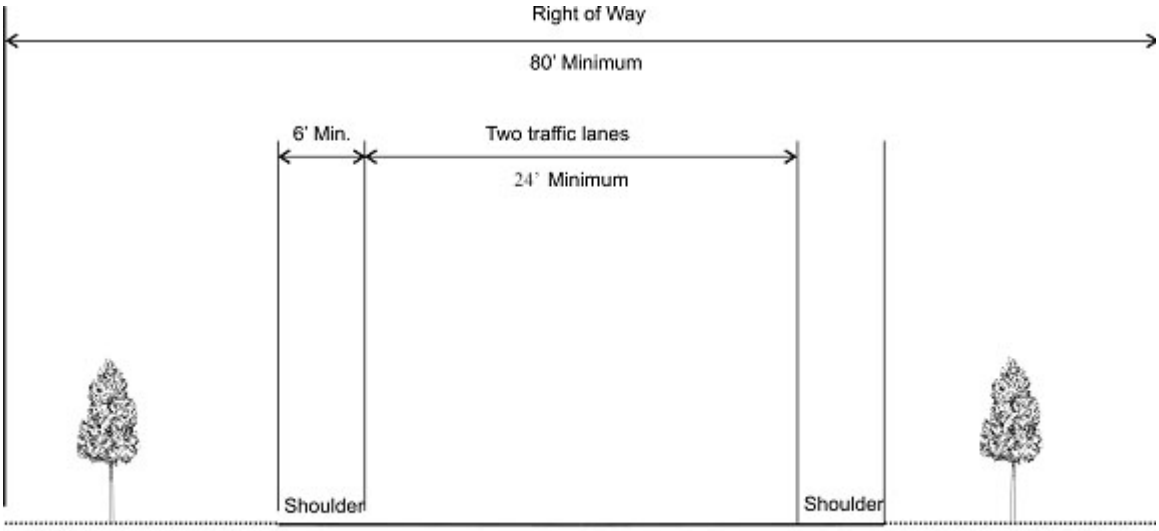
SEE RESIDENTIAL URBAN DESIGN DIAGRAM

4.6.6 Type F Streetscape "Estate Residential Street". This street describes residential streets found in outlying rural areas where densities are relatively low. Design features shall include a minimum 70' right-of-way, open side swale ditches, 28' of pavement that is to include the moving lanes and hardened shoulder. Street trees are to be located about 10' from the right-of-way line. Sidewalks are required when the average lot is less than 150' in width; these should be located abutting the right-of-way line.



Type F Streetscape
Estate Residential Street

4.6.7 Type G Streetscape "Rural Collector Street". This street is that found in more rural areas where roadways were constructed by the County and are commuter routes. The future design is to include an 80' right-of-way, 24' of pavement, and 6' side shoulders. These roads were constructed as chip-seal type surfaces. Street trees are to be located every 50' at least 10' from the edge of pavement. The 6' shoulders can serve as walking space, bicycle lanes or for breakdowns.

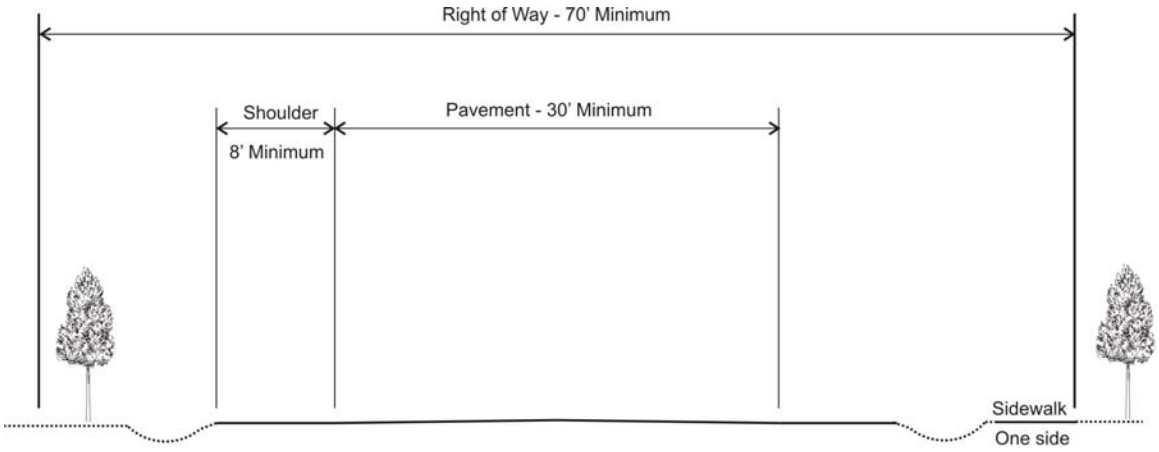


Type G Streetscape
Rural Collector Street

4.6.8 Type H Streetscape "Commercial Collector Street". This street describes commercial streets with the following design features: a minimum 60' right-of-way, a 40' back-to-back pavement width, sidewalks on both sides, and streets trees no closer than 50' of an intersecting street and with a minimum 50' spacing.

SEE TYPICAL COLLECTOR DIAGRAM

4.6.9 Type I Streetscape "Industrial Collector Street". This type of street is like that adopted for the I-440 Industrial Park where there is a minimum 70' right-of-way, a 30' pavement, an 8' shoulder, and open swale ditches. Street trees are to be located about 10' from the right-of-way line and sidewalks are required on one side of the roadway.



Type I Streetscape
Industrial Collector Street

ARTICLE 5. DESIGN OF ROADWAYS

5.1 Basis of Design. The existing and proposed streets in North Little Rock and the unincorporated planning area are classified by function. The functional classification, Principal Arterial through Residential Collector is an element controlling the thickness and treatment in the various layers of the "pavement structure". The pavement structure is a combination of the sub-base, base course, and surface course placed on a sub grade, generally the natural soil, to support the traffic load and distribute it to the roadbed. The pavement structure may utilize a "flexible pavement", asphalt- type materials, or a "rigid pavement", concrete.

A second element of design is the controlling wheel load. The wheel load expressed in pounds relates to the functional classification of streets and the service of streets to specified uses of land as shown in the following table:

Table Two
Wheel Load by Street Standards

Classification of Streets	Controlling Wheel Load*
Principal Arterial	10,000 lbs.
Minor Arterial	8,000 lbs.
Collector	6,000 lbs.
Local	4,000 lbs.

* Service provided by streets of any of the above classifications that are designated truck routes, that serve freight terminals, warehouses, and distribution centers shall have a pavement structure design based on the 10,000 lbs. Controlling wheel load.

Street classification of Interstate Freeway or Other Freeways & Expressways shall be considered as special design problems and may have a substantially different basis of design than that which is outlined herein.

A third element of the basis of design is the variability of soils encountered along a street or roadway and how the soils may relate to the choice of either rigid or flexible pavements.

5.2 Pavement Structure Requirements for Rigid Pavements. Thickness of all rigid concrete pavements, Principal Arterials through Local Streets, may be determined from soil tests run by a reputable testing laboratory. The tests shall include characteristics for identifying Public Roads Administration (P.R.A.) soil groups and sub-grade modulus "K" in pounds per square inch as determined by a reputable testing laboratory. When such sub grade modulus tests are not available, the developer's engineer shall be

permitted to select a sub grade modulus from a diagram showing the correlation between P.R.A. classification and the sub grade modulus. Soils having a sub grade modulus of 100 as determined above, and a concrete mixture resulting in a minimum 3,000 pounds per square inch compressive strength in 28 days, and a minimum working stress of 275 pounds per square inch, is the basis upon which the following standards are established:

Table Three
Rigid Pavement Thickness Standards

Classification of Streets	Balance Design with Integral Curb and Gutter	Uniform Thickness (Inches) Based on Controlling Wheel Load Plus Impact
Principal Arterial	8	9
Minor Arterial	7	8
Collector	6	7
Local	5	6

Balanced designs shall be permitted.

No soil test shall be required except if in the opinion of the City's Engineer the sub grade modulus is less than 100. Should the sub grade modulus be less than 100, and the working stress of the concrete be greater or less than 275 pounds per square inch, the above standards shall not govern, and the total pavement thickness shall be determined by computations based on the test results. Should the sub grade modulus be greater than 100 and the working stress of the concrete be greater or less than 275 pounds per square inch, the above standards shall be modified as determined by computations based on the Test results, but in no case shall the total thickness of concrete be less than 5 inches.

5.3 Pavement Structure Thickness Requirements for Flexible Pavements. Thickness for all flexible pavements, Principal Arterials through Local Streets, may be determined by soil tests run by a reputable testing laboratory. The tests shall include characteristics for identifying P.R.A. soil groups and the Hveem Stabilometer Resistance Value of the sub grade materials as determined by a reputable testing laboratory. When such Hveem Stabilometer tests are not available, the engineer shall be permitted to select resistance value from a diagram showing the correlation between P.R.A. soil groups and the Hveem Stabilometer Resistance Value. Soils having an approximate Hveem Stabilometer Resistance Value of 20 as determined above is the basis on which the following standards are established. The Standard Pavement as outlined in these specifications shall be defined as asphaltic Concrete Hot Mix Wearing Surface placed on a Compacted Crushed Stone Base Course. All types of flexible pavements including soil cement stabilization with asphalt surfacing shall be permitted providing, in the opinion of the City's Engineer, the plans and specifications and construction will define and will

result in a pavement of equal or greater stability. The total thickness shall be determined by the methods outlined in the specifications:

Table Four
Flexible Pavement Thickness Standards

Classification of Streets	Recommended Traffic Index	Total Thickness (Inches) of Standard Flexible Pavement
Principal Arterial	7	16
Minor Arterial	6	13
Collector	5	11
Local	4	9

No soil tests shall be required except if in the opinion of the City's Engineer the Hveem Stabilometer Resistance Values be less than 20. Should the Hveem Stabilometer Resistance Values be less than 20, the above standards shall not govern, and the total pavement thickness shall be determined based on the test results. Should the Hveem Stabilometer Resistance Value be greater than 20, the above standards shall be modified as determined by the test results, but in no case shall the total thickness of the standard flexible pavements be less than 8".

5.4 General Requirements for Storm Sewers and Drainage Facilities. The capacity of all storm sewers and drainage facilities shall be determined by using a rational approach for drainage areas 200 acres or less. Soil conservation service method T-55 should be used on areas over 200 acres, giving due consideration to rainfall intensity, soil characteristics, proper run-off coefficients based on ultimate development as shown on the current City of North Little Rock Lane Use Plan, slope, and the hydraulic properties of the pipes and drainage facilities used.

Design rainfall intensity shall be based on 4" per hour except in new subdivisions, where the rainfall intensity shall be based on a time of concentration of at least a once in 10 year expectancy as determined from local rainfall records. Major drainage ways for a minimum of 100 acres shall be based on a once in 10 year expectancy with overflow provisions for the once in 10 year conditions determined from local rainfall records. The minimum design velocity shall not be less than 2 1/12' per second. The maximum design velocity should not exceed 6' per second. Stabilization measures such as sodding will be required. Where design velocities exceed 10' per second, roadway ditches shall be stabilized with impervious materials, such as concrete, asphalt, stone or manufactured rip rap. Inlets should be placed at intervals generally not to exceed 600 linear feet, except under special conditions as approved by the City Engineer.

5.5 Construction Quality Control. A registered professional engineer or an independent testing laboratory must certify, to the City Engineer, that at least minimum standards for serviceability-performance of roadway construction have been met. The construction quality control for streets and roads in the City of North Little Rock and its planning area must relate to the roadbed soil, sub-base course, base course, and surface course.

Preparation of the sub grade includes at least grading and compaction of the roadbed soils, and may include other means of providing for optimum support of the pavement structure.

The sub-base course shall require a 95% standard proctor density and the base course shall require a 100% standard proctor density.

Core samples for the determination of density and quantities may be required at the developer's expense. Nuclear testing methods will be allowed for determination of densities. Copies of the test results will be provided to the City Engineer. The developer will repair cuts made in taking samples.

5.6 Geometric Design. The developer shall provide certification by a registered engineer that dimensions are substantially in compliance with the standards for geometric design, and that no slope or gradient exceeds the maximum standards for slope and grade.

Table Five
Summary of Minimum Right of Way and Design Standards[1]

	Freeway Express	Principal Arterial	Minor Arterial	Rural Collector	Urban Collector	Estate Local	Urban Local
ROW (Min)[2]	200 ft.	100 ft.	60 ft.	70-80 ft.	60 ft.	70 ft.	50 ft.
Paved Width[3]	NA	56 ft.	48 ft.	24 ft.	36 ft.	28-40 ft.	27 ft.
Shoulder Width[4]	NA	NA	8 ft.	6 ft.	NA.	4 ft.	NA
Center Line Grade (Max.)[5]	NA	9 %	9 %	12 %	12 %	15 %	15 %
Sight Distance (Min.)	NA	500 ft.	500 ft.	300 ft.	300 ft.	200 ft.	200 ft.
Radius of Curve (Min.)	NA	600 ft.	600 ft.	300 ft.	300 ft.	100 ft.	100 ft.

See sketches for Detailed Design Requirements.

Notes

1. Arkansas Highway and Transportation Department Standards
2. Principal Arterial-Intersection approaches will require an extra width of 20'extending 250' from the centerline of intersecting arterials and collectors. Minor Arterial-intersection approaches may require an extra width of 10' extending 150' from the centerline of intersecting arterials and collectors.
3. Widths shown are for final stage for Freeway, Principal Arterial, and Minor Arterial. Stage construction is recommended for Freeway, Principal Arterial, and Minor Arterial.
4. Open-ditch sections only. For curb and gutter sections refer to Cross Section Sketches.
5. Centerline grades may be increased an additional two percent for distances not to exceed 200', subject to approval of the Director of Public Works and the Planning Commission, for curb and gutter streets only; however, the average (positive and negative) grade of the entire street alignment shall not exceed the listed requirements.

5.7 Bridges. All bridges and culverts constructed in North Little Rock and Pulaski County within the planning area shall be in accordance with Arkansas Highway and Transportation Department standards, before they will be accepted for dedication to the City or County System.

ARTICLE 6. ROADWAY PLAN BY IDENTIFIED SEGMENTS

The following is a description of the Master Street Plan by identified roadway segments. This table includes segments for all roadway classifications except the local or residential classification. Further, the table includes the following information columns: (1) administrative system, (2) the roadway name, (3) a description of the segment location, (4) the length of the segment, and (5) the recommended cross-section design including the recommended right-of-way, pavement, and number of travel lanes.

ROAD NAME	FROM-TO	LENGTH	PLANNED			STREET	EXISTING		
			row	pav+cg	lanes/bike	SCAPE	row	pav+cg	lanes
FREEWAYS									
I-30	I-40 to 7th St.	1.1	180	0*	10		180	0	6
I-30	7th St. to AR River	0.6	180	0*	8		180	72	6
I-40	Marche to I-430	3.4	300	0*	6		300	0	4
I-40	I-430 to Highway 176	2.8	300	0*	6		300	0	4
I-40	Hwy. 176 to MacArthur	1	300	0*	6		300	0	4
I-40	MacArthur to I-30	1.1	300	0*	8		300	0	4
I-40	I-30 to 67/167	1.7	200	0*	8		200	0	8
I-40	67/167 to Hwy. 161	1.6	300	0*	6		300	0	4
I-40	Hwy.161 to I-440	2.4	300	0*	6		300	0	4
I-40	I-440 to Lonoke Co.	4.8	300	0*	4		300	0	4
I-430	I-40 to Maumelle	1.2	300	0*	6		300	0	6
I-430	Maumelle to AR River	1.1	300	0*	6		300	0	6
I-440	I-40 to Hwy. 70	0.7	300	0*	6		300	0	6
I-440	Hwy. 70 to Faulkner Lake	1.6	300	0*	6		300	0	6
I-440	Faulkner Lake to Hwy. 165	0.9	300	0*	6		300	0	6
I-440	Hwy. 165 to AR River	0.9	300	0*	6		300	0	4
67/167	I-40 to McCain	0.9	300	0*	6		300	0	4
67/167	McCain to NLR C.L.	1.2	300	0*	6		300	0	4
North Belt	I-40 to Hwy. 365	0.6	300	0*	6		0	0	0
North Belt	Hwy. 365 to Military Dr.	2.4	300	0*	4		0	0	0
North Belt	Military Rd. to Mission Rd.	1.7	300	0*	4		0	0	0
North Belt	Mission Rd. to W. Maryland	1.5	300	0*	4		0	0	0
North Belt	W. Maryland to Kellogg Ac.	2.6	300	72*	4		0	0	0
North Belt	Hwy.161 to I-40	3	300	72*	6		0	0	0

ROAD NAME	FROM-TO	LENGTH	PLANNED			STREET SCAPE	EXISTING		
			row	pav+cg	lanes/bike		row	pav+cg	lanes
PRINCIPAL ARTERIALS									
W. Broadway	Broadway Br. to Willow	0.1	80	48	4	B	80	46	4
W. Broadway	Willow to Main	0.2	80	48	4	B	80-70	40	4
Broadway	Main to I-30	0.4	80	52	4	B	60	40	4
Broadway	I-30 to Vine	0.2	80	59	5	B	60	40	4
Broadway	Vine to Smothers	0.4	80	59	5	B	60	40	4
Broadway	Smothers to 165	1.2	80	59	5	B	60	40	4
Broadway Bridge	AR River to W. Broadway	0.3	100	48	4		100	44	4
Baucum Pike	E. Broadway to Prothro	0.4	80	60	4/B	I	60	24	2
Baucum Pike	Prothro to I-440	3.1	80	48	4	I	60	24	2
Hwy. 165	I-440 to AR 391	2	130	64	4	I	60	44	2
Hwy. 165	AR 391 to Lonoke Co.	5.2	130	64	4	I	100	44	2
JFK	North Hills Blvd. to Osage	0.5	90	60	5	H	90	60	5
JFK	Osage to Kierre	0.4	90	48	4	H	90	48	4
JFK	Kierre Rd. to McCain	0.9	90	60	5	H	90	60	5
JFK	McCain to H St.	1	90	60	5	H	90	60	5
JFK	H St. to I-40	0.5	90	48	4	H	90	48	4
MacArthur	Cedar Ln to Crystal Hill	5.8	120	64	5	G	120	24	2
MacArthur	Crystal Hill to Military	1	120	64	5	G	120	24	2
MacArthur	Military to Landski	0.5	120	52	4	G	120	24	2
MacArthur	Landski to I-40	1.1	130	64	5	H	200	42	3
MacArthur	I-40 to W. Pershing	0.4	200	74	4/B	H	200	36	3
Maumelle Blvd.	City Limits to Crystal Hill	2.2	200	72	6	I	200	48	4
Mauvelle Blvd.	Crystal Hill to I-430	0.2	200	72	6	I	200	60	5
Pike Ave.	W. Pershing to 8th	1.1	200	60	5	C	200	60	5
Pike Ave.	8th to Broadway	0.3	200	64	4	C	200	60	4
Riverfront Dr.	Pike to I-30	1.1	150	64	4	C	150	48	4
Riverfront Dr.	I-30 to E. Broadway St.	0.2	150	64	4	C	150	64	5

ROAD NAME	FROM-TO	LENGTH	PLANNED			STREET	EXISTING		
			row	pav+cg	lanes/bike	SCAPE	row	pav+cg	lanes
MINOR ARTERIALS									
W. 8th St.	Main to Maple	0.1	60	37	2	C	60	37	2
E. 15th St.	Main to N. Hills Blvd.	0.9	80	48	4	D	60	24	2
W. 47th St.	Pike to Camp Robinson	0.4	80	48	4	C	50	22	2
W. 47th St.	Camp Robinson to Ridge	0.3	80	52	4	C	80	52	4
Barbara	North Hills to Lakeview	0.1	60	36	2/B	D	60	36	2
Batesville Pike	NLR PB dry. to NB Interchange	2.0	80	48	4	I	60	24	2
Batesville Pike	NB Interchange to W. Maryland	0.9	80	48	4	I	0	0	0
W. Bayou Crossing	Counts Massie to I-40	2.0	80	52	4	C	0	0	0
Broadway	Pike/Riverfront to 4th	0.2	70	24	2	C	50	22	2
Broadway	4th to Karrot	0.1	60	36	3	C	50	22	2
Broadway	Karrot to Broadway Bridge	0.1	60	48	4	C	50	22	2
Broadway	Hwy. 165 to Omega	1.5	80	64	5	I	60	48	4
Broadway	Omega to 161	0.6	80	64	5	I	60	48	4
Camp Robinson[2]	Latona St. to 52nd	0.6	80	48	3/B	C	40	36	3
Camp Robinson[2]	52nd to 47th	0.3	80	48	4	C	60	36	3
Camp Robinson[2]	47th to 37th	0.7	80	60	5	C	80	60	52
Camp Robinson	37th to Pike	0.2	60	36	3	C	60	36	3
Clinton Rd.	Hwy 365 to North Boundary	2.4	80	48	4	F	50	24	2
Col Maynard Rd.	Craig Rd. to 180' s. of Hwy 165	1.7	80	38*	2	G	50	24	2
Col Maynard Rd.	Hwy 165 to Hwy. 30	0.2	80	38*	2	G	50	24	2
Counts Massie Rd	Maumelle Blvd. to W. Bayou	2.1	80	48*	3	I	50	24	2
Crystal Hill	I-40 to Kampground Way	1.2	100	64	5/B	H	60	24	2
Crystal Hill	Kampground to Maumelle Blvd	0.9	100	64	5/B	H	100	60	5
Doyle Venable	MacArthur to Camp Robinson	0.9	80	64	5	C	80	60	5
Fairfax [1]	Roundtop to Hwy. 161	0.7	80	52	4	G	60	34	2
Hwy. 70	Hwy. 161 to I-440	2.2	80	48	4	I	60	24	2
Hwy. 70	I-440 to Harris	0.2	80	36	3	I	60	24	2
Hwy. 70	Harris to Lonoke Co.	5.0	60	24*	2	I	60	24	2
Hwy. 161	ETJ to 49th St	0.9	80	36*	3	I	50	24	2
Hwy. 161	49th to Fairfax	1.2	80	64*	5	I	60	24	2
Hwy. 161	Fairfax to I-40	0.4	80	64	5	H	80	60	5

ROAD NAME	FROM-TO	LENGTH	PLANNED			STREET	EXISTING		
			row	pav+cg	lanes/bike	SCAPE	row	pav+cg	lanes
MINOR ARTERIALS (continued)									
Hwy. 161	I-40 to Broadway/Hwy. 70	0.9	80	64	5	H	60	36	3
Hwy 391	Hwy. 165 to Hwy 70	1.2	80	56	4*/B	F	50	20	2
W. Keihl Extension	Remount Rd. to W. Kiehl	1	80	48	4	I	0	0	0
Lakeview	Barbra to Warden	0.7	60	44	3/B	D	60	36	2
Landski	MacArthur to Parkway	0.1	80	52	4	H	60	40	2
Landski	I-40 to MacArthur	0.7	80	56	4*/B	H	60	40	2
Main	AR River to Broadway	0.3	70	49	3	B	70	44	3
Main	Broadway to 8th St.	0.3	70	38	3	A	70	44	3
Main	8th St. to 15th St.	0.5	70	48	4	C	70	44	4
Main	15th St. to Pershing	0.7	60	48	4	C	60	48	4
Main	W. Pershing to I-40	0.1	80	60	5	C	80	60	5
Maple	Main St. Bridge to 3rd St.	0.1	60	48	4	C	60	48	3
Maple	3rd St. to 8th St.	0.3	60	48	4	C	60	42	4
Marche Lateral Rd.	Marche Rd. to Hwy. 365	0.7	80	36*	2	I	50	22	2
McCain	Ridge to Hwy. 107	0.7	80	52	4	C	80	48	4
McCain	Hwy. 107 to N. Hills	0.9	80	52	4	C	80	48	4
McCain	N. Hills to 67/167	0.9	80	56	4	C	80	48	4
E. McCain	67/167/ to Spring Hill	0.3	100	64	5	C	100	60	5
E. McCain	Spring Hill to Smokey	0.25	100	64	5	C	80	56	5
E. McCain	Smokey to Richards	0.25	100	64	5	C	80	56	4
E. McCain[1]	Richards to Fairfax	0.3	100	64	5	C	80	48	4
North Hills Blvd.	15th St. to I-40	1.1	80	68	5	I	60	24	2
North Hills Blvd.	I-40 to Barbra	0.5	100	64	5/B	C	80+	56	4
North Hills Blvd.	Barbra to Justin Matthews	0.6	80	48	4	D	80	34	2
North Hills Blvd.	Justin Matthews to Crestwood	0.6	80	48	4	D	80	48	4
North Hills Blvd.	Crestwood to Calico Creek Dr	0.7	80	36	3	D	80	24	3
North Hills Blvd.	Calico Creek Dr. to City Limits	0.7	80	36	3	D	80	24	2
Parkway	Landski to Division	0.5	70	52	4	E	60	24	2
Parkway	Division to Pike	0.3	70	52	4	E	60	24	2
Percy Machin	33rd St. to W. Pershing	0.5	80	52	4	H	80	48	4
W. Pershing	Percy Machin to Main	0.6	80	48	4	H	80	48	4

ROAD NAME	FROM-TO	LENGTH	PLANNED			STREET	EXISTING		
			row	pav+cg	lanes/bike	SCAPE	row	pav+cg	lanes
MINOR ARTERIALS (continued)									
W. Pershing	Percy Machin to Pike	0.1	90	60	5	H	90	60	5
Pike	47th to 44th	0.3	60	36	3	E	40	20	2
Remount	Latona to Maryland	2.2	80	44*	4/B	C	60	24	2
Richards Road	McCain Blvd to Hwy. 161	0.7	70	36	3	H	50	36	3
Spring Hill	I-40 to McCain	0.7	80	60	5	H	80	60	5
Valentine Rd.[3]	Eanes to Hwy. 70	0.6	60	36*	3	I	50	36	3

1. E. McCain Blvd / Fairfax crossing is proposed overpass of railroad.
2. Highway 176
3. Highway 391

ROAD NAME	FROM-TO	LENGTH	PLANNED			STREET	EXISTING		
			row	pav+cg	lanes/bike	SCAPE	row	pav+cg	lanes
COMMERCIAL and INDUSTIAL COLLECTORS									
7th Street	N. Broadway to Willow	0.3	80	48	4	D	50	30	3
7th Street	Willow to Main	0.2	70	48	4	D	60	36	2
7th Street	Main to Locust	0.2	70	48	4	H	60	36	2
E. 13th Street	Main St to N. Locust		60	36	2	H	40	30	2
E. 13th Street	N. Locust to North Hills Blvd.		60	48	3/B	H	60	34	3
W. Access Rd	E. McCain Blvd Ext. to Eanes Rd	1.0	60	40	2	H	0	0	0
E. Access Rd	E. McCain Blvd Ext. to Eanes Rd	1.0	60	40	2	H	0	0	0
Alexander Rd.	Hwy. 165 to Walkers Corner Rd.	0.4	50	40	2	G	50	20	2
Barbara	North Hills to Lakeview	0.2	60	36	3	D	60	24	2
Bethany Rd.	Van Pelt to Hwy. 161	0.8	70	48*	4	I	60	48	4
Central Airport Rd	Highway 70 to north of I-40	0.8	60	36	2	I	50	24	2
Count Massie	Crystal Hill to Maumelle Blvd.	1.5	80	52	4	H	50	24	2
Count Massie	W. Bayou to round-a-bout	1.8	80	48*	3	I	50	24	2
Country Club Pky	City Limits to W. Bayou Crossing	0.3	60	40	2	H	0	0	0
Crystal Hill	Maumelle Blvd to Meeks	0.2	60	40	3	H	0	0	0
Dixie/Luster	E. Broadway to Bethany	1.5	60	40	2	I	0	0	0
Donovan Briley	Military to Hwy. 365	2.2	100	60	4	F	0	0	0
Donovan Briley	Camp Robinson to Military	1.1	100	60	4/B	F	60	42	3
Landers	McCain to NLR Limits	1.1	60	36*	2	H	60	34	2
E. McCain Ext.	Highway 161 to Highway 440	2.4	80	48	4	H	0	0	0
E. McCain Ext.	Highway 440 to Collector St 2	1.8	60	40	2	H			
Meeks Blvd	Paul Eels Dr to Counts Massie	0.9	60	48	2	H	0	0	0
Old Hwy 30	Walkers Corner to Highway 165	1.4	60	40	2/B	G	50	24	2
Old Hwy 67	Fairfax to Trammel	2.6	60	24	2	G	60	24	2
Paul Eels Dr	Maumelle Blvd to Meeks Blvd	0.1	60	40	2	H	60	0	0
River Pointe Dr	Maumelle Blvd to Counts Massie	0.5	100	48	4	H	100	48	0-2
Smokey Lane	Landers to McCain Blvd.	0.6	70	40	3	H	50	24-40	2
Smokey Lane	McCain Blvd to Springhill Dr.	0.4	70	48	4	H	70	44	4
Smothers	7th to E. Broadway	0.2	60	36	2	H	60	30	2
Smothers	E. Broadway to E. Washington	0.2	60	36	2	H	60	30	2
Vestal Extension	Maumelle to W. Bayou Crossing	1.2	80	48	2/B	H	0	0	0

ROAD NAME	FROM-TO	LENGTH	PLANNED			STREET	EXISTING		
			row	pav+cg	lanes/bike	SCAPE	row	pav+cg	lanes
COM. and IND. COLLECTORS (continued)									
Vestal Extension	Crystal Hill to Maumelle Blvd	0.2	80	48	2	H	0	0	0
Warden Rd	McCain to NLR Limits	1.1	60	36*	2	H	60	24	2
Warden Rd	Lakeview to North Hills Blvd.		60	40*	2	H	0	0	0
E Washington Ave	Hwy 100 to Hwy. 70	2.1	60	50	3/B	D	60	36	3
Collector Street 1	North Hills Blvd to Springhill	2.1	60	40*	2	H	0	0	0
Collector Street 2	Valentine to Wooten Road	2.6	60	48	2	G	0	0	0

ROAD NAME	FROM-TO	LENGTH	PLANNED			STREET	EXISTING		
			row	pav+cg	lanes/bike	SCAPE	row	pav+cg	lanes
RESIDENTIAL COLLECTORS									
7th Street	Locust to Smothers	0.4	60	44	2	D	60	34	2
W. 13th	Sycamore to Main	0.3	60	24	2	H	60	24	2
W. 16th	River Rd. to Sycamore	1.4	60	24	2	E	60	32	3
18th Street	Crutcher to Percy Machin	0.3	60	36	2	D	60	30	2
18th Street	Percy Machin to Main St.	0.2	60	36	2	D	60	28	2
19th Street	Main to N. Hills Blvd.	1	60	36	2	D	60	22	2
22nd Street	Division to Pike	0.2	60	36	2	D	60	32	2
33rd Street	Pike to Ridge	0.5	60	36	2	D	60	26	2
E. 46th St	Smokey Ln. to Old Hwy. 67	1.1	60	36	2	I	50	24	2
E. 46th St	Jamison to Hadfield	0.7	60	44*	4	I	50	24	2
Avondale	Waterside to Lakeview	0.2	60	36	2	E	60	28	2
E. Bethany	Hwy. 161 to Eureka Garden	0.5	60	36*	2	E	50	24	2
Bridgeway	Westwind to Crystal Hill	1.0	100	36	2	E	100	22	2
Camp Robinson	Camp Robinson base to Remount	0.8	60	32*	2	I	60	34	2
Campbell Rd.	Faulkner Lake Rd. to Hwy. 165	0.6	60	36	2	E	60	20	2
Crestwood	Randolph to N. Hills Blvd.	0.7	60	36	2	E	60	36	2
Crystal Hill	Hwy. 365 to I-40	0.9	70	48	3	H	60	24	2
Crystal Hill	Maumelle Blvd to Maumelle Blvd.	2.3	80	48*	3/B	F	50	24	2
West D. Ave	Ridge to Cedar	0.6	60	36	2	D	60	28	2
Donovan Briley	Remount to Camp Robinson	1.1	60	36	2	E	0	0	0
Eanes	E. 46th St to Hwy. 391	3.6	60	36*	2	I	50	16	2
Eureka Garden Rd.	E. 46th to Hwy. 70	1.7	60	36	2	F	50	22	2
Fairway	Lakeview to N. Hills Blvd.	0.8	60	44	2	E	60	34	2
Fairway	N. Hills Blvd. to McCain	0.2	60	48	4	E	60	34	2
Fairway	McCain to Somers	0.8	60	52	4	E	60	40	2
Faulkner Lake Rd.	Campbell to I-440	1.5	60	36*	2/B	G	50	20	2
Faulkner Lake Rd	I-440 to Hwy 391	1.4	80	36*	2/B	F	50	22	2
Faulkner Lake Rd.	AR 391 to Walker's Corner	2.6	60	36*	2/B	F	50	20	2
Hwy 161	Hwy 165 to EJT		70	36	2/B	G	50	24	2
Idlewild Ave.	Cedar to Garland	0.2	60	36	2	D	60	28	2
Kierre	Remount to JFK (107)	1.2	70	26	2	E	60	36	3

ROAD NAME	FROM-TO	LENGTH	PLANNED			STREET	EXISTING		
			row	pav+cg	lanes/bike	SCAPE	row	pav+cg	lanes
RESIDENTIAL COLLECTORS (continued)									
Lynch Dr.	Hwy. 70 to Campbell	1.3	60	36	2/B	E	50	30	2
Marche Rd.	Short Marche to Hwy. 365	1	60	24*	2	F	60	20	2
Marche Rd.	RR track to Zajac Rd.	0.1	80	36*	2	F	50	22	0
Marche Rd.	Marche Lateral to RR track	0.6	80	36*	2	F	50	22	2
Military	Landski to McArthur	0.8	100	36	2/B	E	100	24	2
Military	McArthur to Donovan Briley	0.6	110	24	2	E	110	24	2
Mission Rd.	Remount to Osage	0.8	60	24*	2	E	60	20	2
North Hills	Osceola to JFK	0.5	60	40*	2	E	60	40	2
Osage Dr.	Mission to Seminole Tr.	1.1	60	36	2	E	60	32	3
Percy Machin	W. Pershing to 18th	0.9	80	52	4	H	80	50	4
W. Pershing	First St. to Pike	1.1	80	52	4	C	80	48	4
Pike Ave	44th to Camp Robinson	0.8	60	48	4	E	50	22	2
Pike Ave	W 47th St to Military Dr.	1.5	60	48	4	E	50	24	2
Randolph	Hwy. 107 (JFK) to Crestwood	0.5	60	36	2	E	60	24	2
Ridge	47th to 34th (D St.)	0.8	60	28	2	D	60	28	2
Seminole	Osage to NLR Limits	0.2	60	36	2	E	50	24	2
Somers	Fairway to Warden	0.9	60	36	2	H	60	32	2
Sycamore	W. 13th to W. 16th	0.2	60	24	2	D	60	28	2
Walkers Cnr Rd.	Hwy. 70 to Faulkner Lake Rd.	1.9	60	24*	2	E	50	24	2
Walkers Cnr Rd.	Faulkner Lake Rd. to Hwy. 165	0.8	60	36*	2/B	E	50	24	2
Waterside Dr.	Garland to Avondale	0.1	60	36	2	F	60	24	2
Wayne	Hwy. 161 to E. 46th	0.2	60	36	2	F	60	22	2
Westwind Dr.	Short Marche Ext. to Windsong	1	60	24	2	F	60	28	2
Young Rd.	Cook's Landing-Crystal Hill Rd.	1.9	70	40*	2/B	F	50	20	2
Collector Street 4	Faulkner Lake Rd to Old Hwy 30		60	24	2	E	0	0	0
Collector Street 5	Pike Avenue to Paul Duke Drive	1.1	60	36	2	D	0	0	0

ARTICLE 7. BICYCLE PLAN

7.1 Introduction. A focus group from local bicycle clubs was formed to guide the development of the North Little Rock Bicycle Plan. This group endorsed the general proposal of developing a citywide system of safe paths, lanes and suggested routes connecting all major parks, schools, community centers and other special places. A short list of specific route improvements was proposed to provide relatively safe cross-town routes by providing specific off-street paths and bicycle lanes at key locations. A first draft proposal did not receive wide spread support due to the loss of parking in neighborhood areas. In response, the matter was redirected to the Planning Commission for additional review and the current proposal provides specific routes to be developed as off-street bike paths with limited number of on-street bike lanes at critical locations, plus the designation of a system of "suggested routes" on low volume, residential streets where relatively safe bicycle travel is possible.

7.2 Off-Street Paths

a. Developing a bike trail along the Camp Robinson Spur Track from Remount Road to 37th Street;
b. Bike paths along North Hills Blvd. specifically paralleling Barbara Street and between 19th and I-40;
c. Completing a bike path along the South side of River Road from Pike to Burns Park; and
d. Paving the abandoned tracks along 15th Street West of Pike Ave. to Riverview Park.

7.3 Specific On-Street Bike Lanes include

a. Providing bike lanes on Military Road, Donovan Briley Blvd. and a short section of North Hills near I-40;
b. Developing bike lanes on specific new roadways including 15th Street between Pike and Main Street and the 37th Street Connection; and
c. Widening of several roadway segments to provide for bike lanes including; MacArthur from West Pershing to 37th Street and Camp Robinson Road from 50th Street to Donovan Briley Blvd.

7.4 Background. The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) requires that local governments explore and encourage alternatives to automobile travel. Travel by bicycle is a travel option widely used in other countries and many U.S. cities but limited locally. Several reasons contribute to a lack of local use. Local physical and climate conditions are partly to blame. Much of North Little Rock consists of hilly terrain and hot and humid summers discourage commuting by bicycle. There are also numerous physical barriers. For instance, local freeways and rail yards dissect the community, preventing convenient connections. But the primary reason more bicycling does not occur is the fact that bicycling is too dangerous! Leading causes for this danger include: (1) most streets in the area are too narrow to provide designated bike lanes, (2) automobile speeds are too fast and (3) the general public is not conditioned to respect the cyclist as a vehicle of the road. Due to these constraints, bicycling is likely to be associated more with recreation, exercise or travel to neighborhood schools, parks and community centers rather than as a serious option for commuting.

7.5 Finding space for bicycles depends on who's riding. Legally, a bicycle is a vehicle of the road and must follow all rules imposed with automobile travel. Bicycles should always travel with the flow of traffic, never opposing traffic, holding as far as possible to the outside pavement edge to allow automobiles to pass. For safety reasons, bicycle travel is restricted from high speed freeways and most pedestrian sidewalks. Bicycles and pedestrian traffic can share paths where the path has a minimum width of eight feet.

Because the cyclist is exposed to extreme danger on major streets it is recommended that bicycle travel, especially by the untrained rider, is directed to routes on low volume collector and residential streets. In these areas, little special provisions will be needed. Low volume in this instance is considered to be less than 3,000 vehicles per day (VPD). On bicycle routes with higher traffic volume, it is recommended that designated space be provided first by way of a shared lane and as volumes and speeds increase by a bike lane. A shared lane facility is a roadway with the outside travel lane being fourteen foot in width where no curb exist or fifteen foot along curbed streets. A bike lane must be a minimum width of six feet to meet federal standards.

Along high volume arterials or in and around major recreational areas it is recommended that separated bike ways, trails or paths be provided. These off-street bike paths be a minimum width of eight feet to provide for two-way traffic and the expected mixing with pedestrians.

As a legal vehicle of the roadway, the experienced bicyclist can join the flow of traffic on all roadways except freeways. The focus of this plan is not on the experienced rider but providing safe routes for children and the untrained rider.

7.6 Physical Terrain Features. The City of North Little Rock has diverse geologic setting. The older town, the area South of I-40, is relatively flat, located in flood plain of the Arkansas River. Neighborhoods of the river's flood plain from West to East include Maumelle Boulevard, Burns Park, Baring Cross, Mid-City, Argenta, Dark Hollow, Sherman Park, Dixie, East Second Street, Rose City, Glenview, Prothro Junction, England Highway and Willow Beach. Throughout these areas the terrain is table flat, a favorable feature when traveling by bicycle. Bicycling becomes difficult to near impossible with a slope greater than 15 percent. Joining these areas are a few neighborhoods with relatively flat terrain. These include Levy, Tanglewood and nearby Ranch Estates.

More hilly terrain is found in most other neighborhoods including; Park Hill, Lakewood, Indian Hills, and Windsor Valley. Hilly terrain can often present an obstacle to bicycling. The physical geography of the area provided the impetus for locating Fort Roots, a military post with a strategic overlooking of the Arkansas River. Further to the North, Camp Robinson was located on a high plateau above several residential neighborhoods.

7.7 Urban Arterials, Unfriendly to the Cyclist. Another obstacle to bicycling is the fact that most urban arterials are overcrowded and speeds are often incompatible with the cyclist. Local roadways are often narrow with little pavement available for designated space for bicycles.

The older areas of the City are located in the Arkansas River flood plain where streets were constructed on the traditional grid pattern, where land was sold on standard block width and lengths. Areas of hilly terrain were developed in a more natural and organic form where streets are laid out to follow gentle slopes either going up or down hills. This form of development may

provide for the best possible grades in hilly areas but the roadway connections are fewer. Modern suburban development with its extensive use of cul-de-sacs further limits possible connections for both the bicyclist and pedestrian as well.

7.8 Rail Yards and Freeways also Discourage Cycling. Historically, North Little Rock was a railroad town, providing the largest rail hub in Arkansas. The rail yards of Dark Hollow presents a major East-West barrier across the older part of the community. The Interstate Freeway network added in middle of this century added another overlay of barriers to pedestrian and bicycle travel. I-40 cuts East-West through the city and is located at the foot of Park Hill. This freeway separates the older town from newer residential districts established in the latter half of the century. I-30 cuts North-South through the older community, connecting downtown Little Rock with I-40. 67/167, a State freeway, provides a major route to the northeast. This freeway was not constructed through established neighborhoods so it does not impact connections as severely as the Interstate routes.

7.9 Goals and Objectives

7.9.1 Key goals of this Plan

a. To provide relatively safe routes to major parks, schools, community centers and other special places;
b. To provide major cross city routes for exercise and touring;
c. To improve bicycle safety; and
d. To encourage bicycling as a means of travel.

7.9.2 How to accomplish these goals. The major element of the plan involves designating, improving and developing relatively safe routes to all major parks, schools, community centers, and special places where bicycles are likely to be used as the means of travel. Incremental development of recommended routes will in time provide major cross city routes. Some communities with greater bicycle use publish route maps for mass distribution. Locally, bicycle use is a very low percentage of overall travel and such an effort may not be as valuable. Once a system is in place, Route maps should be distributed through bike clubs, schools, and special governmental and community efforts, and through local retail stores where bicycles are sold. Advertising routes through the public information media or the community newspaper may be another means of advertising established routes.

Improved bicycle safety is likely to occur as a result of the development of the bicycle route system and through ongoing education efforts. The education of the general public regarding best riding practices is expected to be a difficult task. Obviously, special programs at local schools should be attempted. Educating adults is a more difficult problem. Diligent efforts through the local media may have an impact on motorist behavior. Another means of communicating with the motorist is providing information through driver education programs and the State Driver's Licensing Program. However, such an effort will miss the great majority of motorist which renew driver's license without additional testing. One effort that might help is distributing pamphlets when renewing driver's licenses.

The promotion of increased bicycle use is a subject unto itself. The local street patterns, geography, narrow roadway network and climatic setting do not pose a friendly setting for

encouraging bicycling. Some efforts that have been tried in other communities to increase use include coordinating bicycle rodeos or special events or staging a "bicycle to work day" to focus attention on bicycling.

7.9.3 The Bike Plan Maps. The attached maps recommend proposed bicycle routes. These routes have been identified to provide connections from neighborhoods to schools, parks and other special places. The plan recommends the development of various route types based on traffic conditions and the need for special accommodations.

The specific route types include: Class I – bikeways and paths completely separated from local traffic, Class III – shared-lane facilities where the outside lane is 14' wide on open shoulder roadways or 15' along curb and gutter roadways, and Class IV – designated routes where no special areas area set aside for bicycles. Class II lanes, which feature a designated bike lane adjacent to the roadway, have not been adopted in the North Little Rock Bicycle Plan.

The following diagrams illustrate the Class I and Class III route types.

CARTS
Bicycle Design Standards

Types of Bicycle Facilities

Bicycle paths are rated as suitable for three types of cyclists – Adults (Group A), Beginners (Group B) and Children (Group C).

Class I: Separate Shared Paths (Groups A, B/C)

Definition - A shared pedestrian/bicycle path that is physically separated from motorized vehicular traffic by an open space or barrier and either within the roadway right of way or within an independent right of way.

Two-way shared pedestrian/bicycle paths will be a minimum of 12 ft (3.6 m) wide.

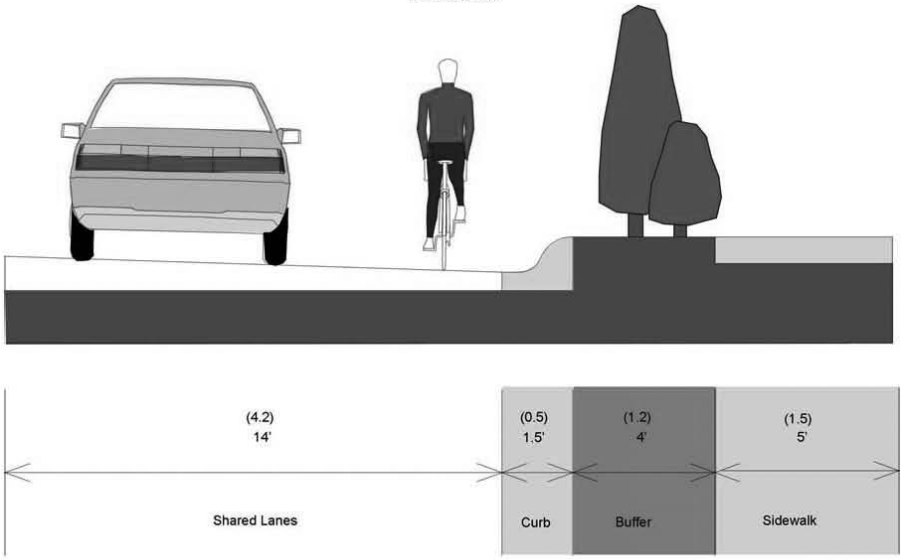
Two-Way Separated Shared Pedestrian/Bike Path
Preferred

12' Minimum

Class III: Shared Lanes (Group A)

Definition - Shared lanes are roadways with no special provision (except for signing of the bike route) for bicyclists. Shared lanes typically feature 12 ft (3.6 m) lane widths or less with no shoulders, allowing cars to safely pass bicyclists only by crossing the centerline or moving into another traffic lane.

Shared Lanes
Preferred



Other Types of Shared Facilities:

Wide Outside Lane: An outside lane (right–most through traffic lane) with a width of at least 14 ft (4.2 m).

Shoulder: Shoulders must be paved and a minimum of 4 ft (1.2 m) wide when they are designed to accommodate bicycle travel.

7.9.4 Implementation suggestions. Development of these routes is likely to be the result of a combination of efforts, including the following suggestions:

a. It is recommended that the North Little Rock Bike Plan be officially adopted by the Planning Commission and City Council to provide a statement of community intentions and support.

b. The Master Street Plan should be modified to provide additional pavement widths as recommended on the Plan maps or other locations where special accommodation is needed.

c. Funding opportunities should be investigated, such as implementing specific projects through the Arkansas Highway & Transportation 50/50 match program, the State Parks Outdoor Recreation Program, through competition for local Surface Transportation Program (STP) funds available through the local Metropolitan Planning Organization, additional State Enhancement funds may be available to develop elements of the plan

d. City efforts through local Capital Improvement Projects should be made available for specific elements of the Bike Plan. Local neighborhood organizations should work with designated Ward Aldermen to secure funding of specific elements.

ARTICLE 8. ACCESS MANAGEMENT PLANS

8.1 Access Management. Urban areas face a constant struggle to maintain the integrity of major traffic arteries. These arteries exist for the primary purpose of moving large volumes of traffic in the most unimpeded manner possible from one point to another. The most efficient design limits access to major intersections and eliminates at-grade crossings of other intersections. Unfortunately, the success of arterials in moving such large volumes of traffic makes them a prime target for commercial enterprises. The developers of such projects seek direct access to major traffic arteries and often exhibit the political power or expertise to obtain such access. This, in turn, diminishes the ability of the artery to carry traffic, resulting in congestion and the demand to build additional arteries, whereupon the process begins anew.

Access Management provides tools to deal with land uses abutting or otherwise served by a roadway, while preserving the safe and efficient flow of traffic on the roadway system. It applies basic traffic engineering principles to the location, design and operation of access drives serving activities along the roadway. It also evaluates the suitability of providing access to a given road, as well as the suitability of a site for land development. It is a way of determining when and where access should be located, how it should be designed, and the procedures needed to administer the program. In other words, it properly manages the competing needs of traffic movements and the demands for access to different land uses.

Access management includes classifying roadways based upon functional criteria, defining allowable levels of access for each roadway class, including spacing requirements for median openings, driveways, and signals, applying appropriate geometric design and traffic engineering analysis criteria, and adopting implementing regulations and administrative procedures.

The City of North Little Rock has identified three arterials in its urban area that require access management plans. These include portions of:

a. Arkansas Highway 391
b. U.S. Highway 165
c. Maumelle Boulevard

The following sections document the existing conditions and the measures adopted for each of the arterials. As new arterials or segments of arterials are identified in the future, they will be added to this plan.

8.2 Arkansas Highway 391. Arkansas State Highway 391 is a vital north-south arterial connecting US Highway 70 to Interstate 40. Currently, it carries 4,000 vehicles per day (vpd), north of Hwy 70, to 9,300 vpd, over I-40. This is forecasted to increase to 10,500 vpd by 2025. Not only does this arterial serve local traffic, it also serves the City's main industrial area. Consequently, there is a very high percentage of truck traffic (24%), resulting in a volatile traffic mix. Moreover, there are high volumes of turning movements associated with this traffic due to the abutting land uses. This creates a dangerous driving environment.

Highway 391/Galloway is a minor arterial on the City master street plan and serves as a roadway connecting the City to its industrial area. The secondary purpose is to increase the safety for

drivers and pedestrians that use this facility. It is the intent of this plan to provide access to abutting properties consistent with the primary and secondary objectives.

This access management agreement pertains to State Highway 391, also known as Galloway, from State Highway 70 north to Interstate 40 Frontage Roads (1,300 feet). See Route Map.

8.2.1 Access Criteria.

a. A minimum spacing of 200 feet for future connections (e.g. driveways, etc.) to the Roadway.
b. A minimum corner clearance of 125 feet from point of intersection (PI) to the edge of the connection.
c. A maximum of two connections for each roadway segment within the limits specified in this agreement.
d. The standards are to be applied during plat review prior to development, or redevelopment, approval by the City.

8.3 Highway 165 – Access Management Plan. Highway 165 is a radial arterial leading southeast from North Little Rock. The properties along the highway are currently in various stages of development. The purpose of the plan is outlining methods of granting access to new developments while maintaining an acceptable level of safety, and protecting the capacity and level of service of the roadway

The highway has a parallel levee from I-440 to Highway 391 and also a rail spur near I-440. The rail line had previously continued along the highway connecting to Pine Bluff but was abandoned in the 1970's.

All property in the area is part in the Arkansas River flood plain, the land is flat and fertile. Soils of the area are generally sandy loam, which present no physical constraints to urban development.

Urban development has been relatively slow to emerge in this area but in the past decade there has been significant industrial, commercial and residential developments and additional development proposals have been discussed. Several large residential subdivisions are being reviewed in the general area as well as additional industrial and several commercial developments. The 1500-acre, Fulkerson property has been planned as a high quality mixed use commercial, office and residential area. Favorable zoning has been provided to allow the proposed high density urban development. Consequently, the development of this corridor is likely to intensify in the near future.

Highway 165 is classified as a principal arterial on the City Master Street Plan as well as the regional transportation plan. The typical design for a principal arterial is a four to six lane median type parkway or freeway. There is no major project proposed and no funding available to widen Highway 165 to the eventual design. This plan proposes design elements to incorporate with major development in the interim period.

8.3.1 Access Criteria.

a. The donation of the additional right-of-way shall be a condition of approval on all proposed plats or with new primary structures that front onto Hwy 165.

b. Quarter mile spacing shall be maintained between all proposed intersecting streets.

c. Turning bays shall be installed at street intersections or where commercial driveways are proposed to move turning traffic out of the travel lanes.

d. Driveways shall be permitted with the goal of minimizing congestion and reducing traffic hazards. Techniques to be used include:

   1. large acreage development may be restricted to one or two access points;

   2. shared driveways shall be used where appropriate; and

   3. driveways on smaller lots shall be developed to allow driveways at 300' separations or 300' to the nearest street intersection.

e. Cross-access easements and driveway frontage connections shall be included with all commercial developments to allow connections between lots. The drives shall be near the front building line and extend to the side property line when adjoining vacant lots.

f. A 30' curb radius shall be required on driveways where a deceleration or acceleration lane is not provided.

g. The shoulder shall be widened to 14' to provide for a deceleration and acceleration lane.

8.4 Maumelle Boulevard - Access Management Plan.

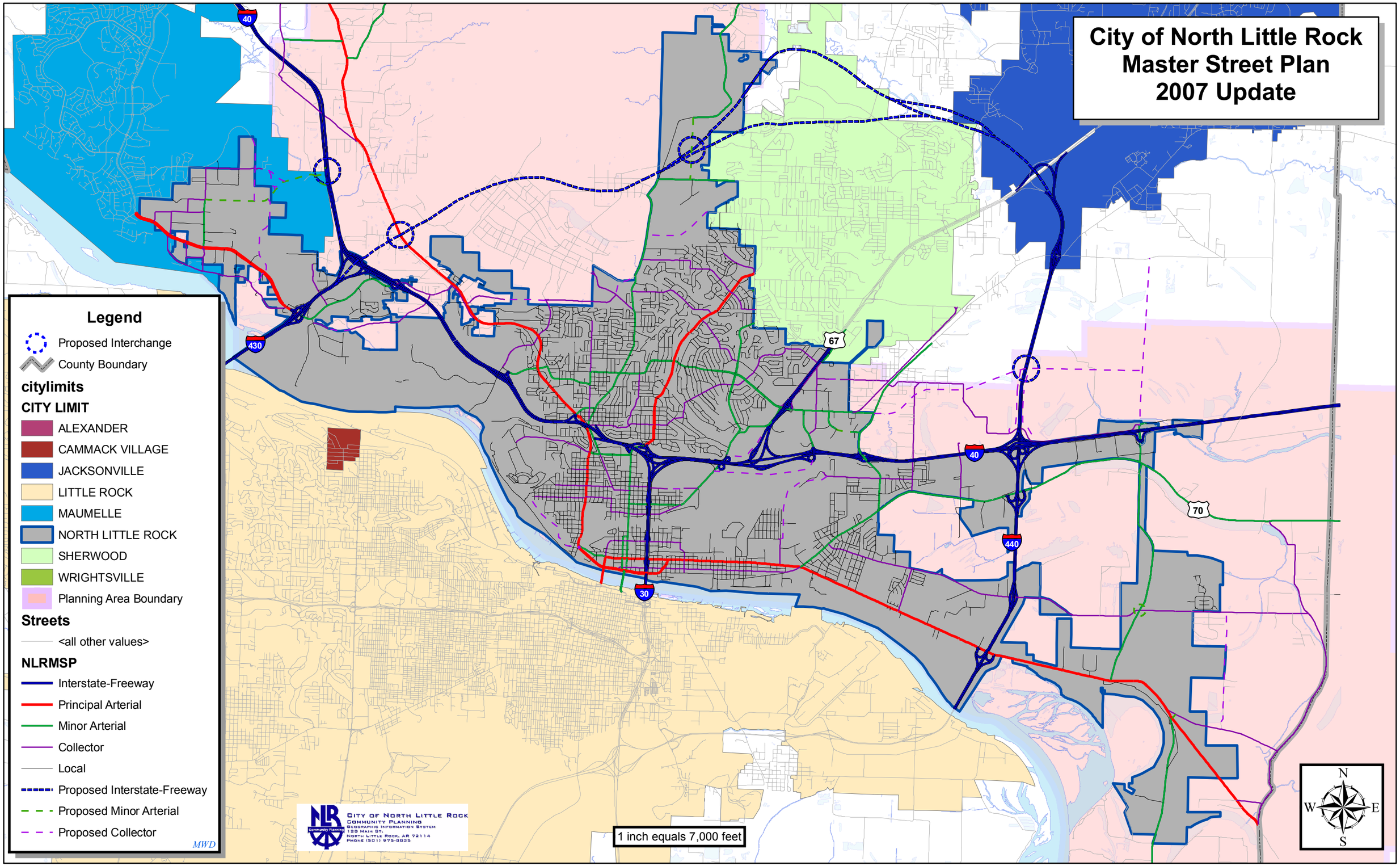
The minimum driveway spacing for Maumelle Boulevard is 330 feet between the driveway centerlines. No subdivision may create any lot fronting on an Other Freeway or Expressway having a width less than the recommended minimum driveway spacing, unless one of the following conditions is met:

a. Access to the lot is limited to streets other than Maumelle Boulevard.
b. Access to the lot is provided jointly with other lots such that the minimum driveway spacing is met.
c. Access to the lot is ultimately to be provided from a frontage road which has been planned and officially approved.

If the Planning Director is satisfied that attempts to secure access via a local street have been made and access is determined unavailable, and access cannot be secured through joint access with abutting parcels, driveway access may be granted to the Other Freeway or Expressway facility if minimum corner clearances and other design measures, such as driveway spacings, are met. However, this access should be limited to right turns. Where excessive access points are conceded, an additional service lane should be added to minimize traffic conflicts.
Where conditions dictate, a one-way drive entrance before the intersecting collector or an exit after the collector may be permissible in the storage lane, beyond the taper, with the review and approval of the City Engineer or Planning Director. A distance of 330 feet is the recommended minimum spacing from the center line of a private drive to the center line of the intersecting collector roadway. The minimum spacing allowed for the first private driveway on the collector is

165 feet from the center line of Maumelle Boulevard to the center line of the private driveway. Other design features for Maumelle Boulevard are illustrated on detailed geometric design drawings prepared by Pulaski County Office of Planning and Development.

City of North Little Rock
Master Street Plan
2007 Update



Legend

- Proposed Interchange
- County Boundary

citylimits

CITY LIMIT

- ALEXANDER
- CAMMACK VILLAGE
- JACKSONVILLE
- LITTLE ROCK
- MAUMELLE
- NORTH LITTLE ROCK
- SHERWOOD
- WRIGHTSVILLE
- Planning Area Boundary

Streets

- <all other values>

NLRMSP

- Interstate-Freeway
- Principal Arterial
- Minor Arterial
- Collector
- Local
- Proposed Interstate-Freeway
- Proposed Minor Arterial
- Proposed Collector

MWD

City of North Little Rock
Community Planning
Geographic Information System
120 Main St.
North Little Rock, AR 72114
Phone (501) 975-8835

April 24, 2007

0 7,000 14,000 28,000 Feet

Legend

BikePlan

Type

- Lane
- Proposed Lane
- Route
- Trail
- Proposed Trail

Streets

Street Type

- Interstate
- Principal Arterial
- Minor Arterial
- Collector
- Local Street
- NLR City Limits
- county_boundary

MWD

City of North Little Rock: Bicycle Plan

April 24, 2007

1 inch equals 7,000 feet

0 3,500 7,000 14,000 21,000 28,000 Feet